

## CLAIMS

What is claimed and desired to be secured by Letters Patent is as follows:

1. A system for implementing grammar-based quality control rules for laboratory tests, comprising:
  - a storage device;
  - at least one processor operable to:
    - maintain in said storage device a database identifying a plurality of laboratory tests and corresponding quality control rules;
    - receive a quality control rule for a specified laboratory test, said quality control rule being expressed in accordance with a quality control rule grammar; and
    - transfer said quality control rule to said database for storage in relation to said specified laboratory test.
2. The system of Claim 1, wherein said processor is further operable to compile said quality control rule prior to transfer to said database.
3. The system of Claim 2, wherein said quality control rule is compiled to an intermediate code.
4. The system of Claim 2, wherein said quality control rule is compiled using lexical analysis, syntactical analysis and semantic analysis.
5. The system of Claim 1, wherein said quality control rule is formulated by a user in accordance with said quality control rule grammar.

6. The system of Claim 5, wherein said processor is operable to receive said quality control rule in response to a direct input of said quality control rule by said user.
7. The system of Claim 5, wherein said quality control rule is added to a quality control rule menu for subsequent selection by one or more users.
8. The system of Claim 7, wherein said processor is operable to receive said quality control rule in response to a user selection of said quality control rule from said quality control rule menu.
9. The system of Claim 1, wherein said quality control rule comprises an expression formed of a plurality of tokens selected from the following group: an integer, a number, a points term, a statistic, a unary operator, an infix operator, a logical operator, an inequality operator, and combinations thereof.
10. The system of Claim 9, wherein said statistic is selected from the following group: a laboratory mean, a group mean, a laboratory standard deviation, a group standard deviation, a laboratory coefficient of variation, a group coefficient of variation, a standard deviation index, and a coefficient of variation index.
11. The system of Claim 1, wherein a first processor located in a server is operable to maintain said database in said storage device and a second processor located in a user workstation is operable to receive said quality control rule and transfer said quality control rule to said database.

12. The system of Claim 1, wherein said processor is located in a server.
13. The system of Claim 1, wherein said processor is located in a user workstation.

14. A computerized method of implementing grammar-based quality control rules for laboratory tests, comprising:
  - maintaining a database identifying a plurality of laboratory tests and corresponding quality control rules;
  - receiving a quality control rule for a specified laboratory test, said quality control rule being expressed in accordance with a quality control rule grammar; and
  - transferring said quality control rule to said database for storage in relation to said specified laboratory test.
15. The computerized method of Claim 14, further comprising compiling said quality control rule prior to transferring to said database.
16. The computerized method of Claim 15, wherein said quality control rule is compiled to an intermediate code.
17. The computerized method of Claim 15, wherein said quality control rule is compiled using lexical analysis, syntactical analysis and semantic analysis.
18. The computerized method of Claim 14, wherein said quality control rule is formulated by a user in accordance with said quality control rule grammar.
19. The computerized method of Claim 18, wherein said quality control rule is received in response to a direct input of said quality control rule by said user.

20. The computerized method of Claim 18, wherein said quality control rule is added to a quality control rule menu for subsequent selection by one or more users.
21. The computerized method of Claim 20, wherein said quality control rule is received in response to a user selection of said quality control rule from said quality control rule menu.
22. The computerized method of Claim 14, wherein said quality control rule comprises an expression formed of a plurality of tokens selected from the following group: an integer, a number, a points term, a statistic, a unary operator, an infix operator, a logical operator, an inequality operator, and combinations thereof.
23. The computerized method of Claim 22, wherein said statistic is selected from the following group: a laboratory mean, a group mean, a laboratory standard deviation, a group standard deviation, a laboratory coefficient of variation, a group coefficient of variation, a standard deviation index, and a coefficient of variation index.

24. A computer-readable medium having computer-executable instructions for performing a method of implementing grammar-based quality control rules for laboratory tests, said method comprising:
  - maintaining a database identifying a plurality of laboratory tests and corresponding quality control rules;
  - receiving a quality control rule for a specified laboratory test, said quality control rule being expressed in accordance with a quality control rule grammar; and
  - transferring said quality control rule to said database for storage in relation to said specified laboratory test.
25. The computer-readable medium of Claim 24, further comprising compiling said quality control rule prior to transferring to said database.
26. The computer-readable medium of Claim 25, wherein said quality control rule is compiled to an intermediate code.
27. The computer-readable medium of Claim 25, wherein said quality control rule is compiled using lexical analysis, syntactical analysis and semantic analysis.
28. The computer-readable medium of Claim 24, wherein said quality control rule is formulated by a user in accordance with said quality control rule grammar.
29. The computer-readable medium of Claim 28, wherein said quality control rule is received in response to a direct input of said quality control rule by said user.

30. The computer-readable medium of Claim 28, wherein said quality control rule is added to a quality control rule menu for subsequent selection by one or more users.
31. The computer-readable medium of Claim 30, wherein said quality control rule is received in response to a user selection of said quality control rule from said quality control rule menu.
32. The computer-readable medium of Claim 24, wherein said quality control rule comprises an expression formed of a plurality of tokens selected from the following group: an integer, a number, a points term, a statistic, a unary operator, an infix operator, a logical operator, an inequality operator, and combinations thereof.
33. The computer-readable medium of Claim 32, wherein said statistic is selected from the following group: a laboratory mean, a group mean, a laboratory standard deviation, a group standard deviation, a laboratory coefficient of variation, a group coefficient of variation, a standard deviation index, and a coefficient of variation index.

34. A system for implementing grammar-based quality control rules for laboratory tests, comprising:
  - means for maintaining a database identifying a plurality of laboratory tests and corresponding quality control rules;
  - means for receiving a quality control rule for a specified laboratory test, said quality control rule being expressed in accordance with a quality control rule grammar;
  - and
  - means for transferring said quality control rule to said database for storage in relation to said specified laboratory test.
35. The system of Claim 34, further comprising means for compiling said quality control rule prior to transfer to said database.
36. The system of Claim 34, wherein said quality control rule is formulated by a user in accordance with said quality control rule grammar.
37. The system of Claim 34, wherein said quality control rule comprises an expression formed of a plurality of tokens selected from the following group: an integer, a number, a points term, a statistic, a unary operator, an infix operator, a logical operator, an inequality operator, and combinations thereof.

38. A computerized method of implementing grammar-based quality control rules for laboratory tests, comprising:
  - maintaining a database identifying a plurality of laboratory tests and corresponding quality control rules;
  - receiving a quality control rule for a specified laboratory test, said quality control rule being formulated by a user in accordance with a quality control rule grammar;
  - compiling said quality control rule to an intermediate code using lexical analysis, syntactical analysis and semantic analysis; and
  - transferring said converted quality control rule to said database for storage in relation to said specified laboratory test.
39. The computerized method of Claim 38, wherein said quality control rule is received in response to a direct input of said quality control rule by said user.
40. The computerized method of Claim 38, wherein said quality control rule is added to a quality control rule menu for subsequent selection by one or more users, and wherein said quality control rule is received in response to a user selection of said quality control rule from said quality control rule menu.
41. The computerized method of Claim 38, wherein said quality control rule comprises an expression formed of a plurality of tokens selected from the following group: an integer, a number, a points term, a statistic, a unary operator, an infix operator, a logical operator, an inequality operator, and combinations thereof.